NOTES

A CHROMOSOME COUNT FOR *JUNIPERUS ASHEI* (CUPRESSACEAE) AND ADDITIONAL CHROMOSOME NUMBERS FOR *HEDEOMA* (LABIATAE)—In a study of possible hybridization in *Juniperus*, some years ago, I was able to establish a chromosome record for *Juniperus ashei* Buchholtz. To my knowledge this is the first documented chromosome report for this species. The count was taken from root tip material using excised embryos grown on nutrient enriched agar. With this technique no pretreatment (stratification) of the seed material was necessary.

During recent biosystematic studies of *Hedeoma* and allied genera (Irving *et al.*, 1979) additional chromosome numbers were established for three previously uncounted taxa. These counts, derived from root tips, supplement *Hedeoma* chromosome numbers reported earlier (Irving, 1976). The numbers for *H. montanum* and *H. nanum* var. *macrocalyx* ($2n = 36$) are consistent with those of related taxa. *H. multiflorum* of Uruguay and Argentina, however, was tetraploid ($2n = 72$) but is closely related to *H. drummondii* ($2n = 36$) of Mexico and western U.S.

JUNIPERUS ASHEI Buchholtz (Fig. 1) $2n = 22$. U.S.A., Texas, Hays Co.: *R. S. Irving s.n.* (MONTU).

HEDEOMA MONTANUM Brandegee $2n = 36$. MEXICO, Coahuila, Sierra de Parras: *R. S. Irving* 77-7 (TEX).

HEDEOMA NANUM (Torr.) Briq. var. MACROCALYX Stewart, $2n = 36$ U.S.A., Ariz., Yavapi Co.: *R. B. Oxford 428* (ASU).

HEDEOMA MULTIFLORUM Benth. $2n = 72$. URUGUAY, Mercedes: *R. S.*

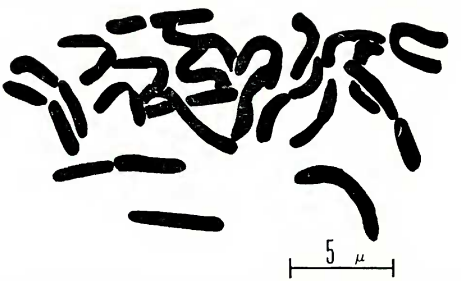

FIGURE 1. Chromosomes of *Juniperus ashei*. Tracing from photomicrograph.

Irving 7715 (TEX).—*Robert S. Irving, 1422 Summit, Little Rock, AR 72202.*

REFERENCES

IRVING, R. S. 1976. Chromosome numbers in *Hedeoma* (Labiatae) and related genera. Syst. Bot. 1: 46–56.

———, S. BRENHOLTS, & D. D. IRVING. 1979. Artificial hybridization in *Hedeoma* (Labiatae). Syst. Bot. 4: 1–15.

NEW AND RE-INSTITUTED COMBINATIONS IN *GUTIERREZIA* (COMPOSITAE: ASTEREAE).—In connection with monographic work on what is commonly known as the *Xanthocephalum* complex, and treatment of these genera for the *Flora of the Chihuahuan Desert Region* (M. C. Johnston, and collaborators, in preparation), the combinations listed below are necessary. Justification of such dispositions and full synonymy will be provided in a forthcoming doctoral dissertation on the group.

There is strong morphological and chromosomal evidence supporting the close alliance of the species of the former genus *Greenella* with those of *Gutierrezia*, reflected here by the transfer of *Greenella arizonica* and *G. ramulosa* into *Gutierrezia*. The third species of *Greenella, G. discoidea* Gray (Proc. Amer. Acad. Arts 19: 2. 1883), which is known only by the type material, has been found by this author to be a rayless form of *Xanthocephalum wrightii* (Gray) Gray. Since I have here returned this latter species to *Gutierrezia* also, the genus *Greenella* as a whole is reduced to synonymy. The only objection that Gray himself had to this placement was ray-floret color, and since there are several South American gutierrezias with white rays, maintenance of a distinct genus on that basis is meaningless.

As a result of these transfers and the changes of status of two of the taxa involved, there are now 14 North American species of *Gutierrezia*. *Gymnosperma glutinosum* is closely related to this group and may be transferred to *Gutierrezia* in the future; this taxonomic decision must await additional study.

1. GUTIERREZIA **conoidea** (Hemsley) Lane, comb. nov. Based on: *Xanthocephalum conoideum* Hemsley, Biol. Centr. Amer. 2: 109–112. 1882.

2. GUTIERREZIA ALAMANI Gray, Smithsonian Contr. Knowl. 3(5): 91 (Pl. Wright. 1: 91). 1850. This species has been known most recently as *Xanthocephalum linearifolium* (DC) Greenman (Publ. Field Mus. Nat. Hist. Bot. series 2: 345. 1912), based on *Keerlia linearifolia* DC (Prod. 5: 309–310. 1836). However, when placed in *Gutierrezia*, it must take Gray's epithet because of the pre-existence of *G. linearifolia* Lag. (Gen. et Sp. Nov. 30. 1816).

3. GUTIERREZIA ALAMANI Gray var. **megalocephala** (Fernald) Lane, comb. & stat. nov. Based on: *Xanthocephalum megalocephalum* Fernald,